CLAIMS

What is Claimed is:

1. A timer circuit comprising:

an output stage coupled to a configurable delay element; and

a pull-down path coupled to said output stage and comprising a circuit for providing a selectable amount of pull down current, said pull-down path also coupled to receive a reference signal that varies in proportion to temperature and wherein a delay through said timer circuit is inversely proportional to said temperature.

2. A timer circuit as described in Claim 1 wherein said reference signal is derived from a band gap reference circuit.

3. A timer circuit as described in Claim 2 wherein said reference signal is a VPTAT voltage signal.

4. A timer circuit as described in Claim 1 wherein said configurable delay element comprises a plurality of gated capacitors which can be selectively coupled to said output stage via a plurality of corresponding pass gates.

5. A timer circuit as described in Claim 4 wherein said configurable delay element further comprises a plurality of configuration bits each for controlling a respective pass gate.

6. A timer circuit as described in Claim 1 wherein said circuit for providing a selectable amount of pull down current comprises a plurality of gated pull-down circuits coupled in parallel wherein each gated pull-down circuit comprises a first transistor having a gate controlled by a respective configuration bit and a series coupled second transistor having a gate controlled by said reference signal.

7. A timer circuit as described in Claim 4 wherein said circuit for providing a selectable amount of pull down current comprises a plurality of gated pull-down circuits coupled in parallel wherein each gated pull-down circuit comprises a first transistor having a gate controlled by a respective configuration bit and a series coupled second transistor having a gate controlled by said reference signal.

8. A timer circuit as described in Claim 6 wherein said configurable delay element comprises a plurality of gated capacitors which can be selectively coupled to said output stage via a plurality of corresponding pass gates.

9. A timer circuit as described in Claim 8 wherein said configurable delay element further comprises a plurality of configuration bits each for controlling a respective pass gate.

10. An electronic device comprising a timer circuit and wherein said timer circuit comprises:

an output stage coupled to a configurable delay element; and

a pull-down path coupled to said output stage and comprising a circuit for providing a selectable amount of pull down current, said pull-down path also coupled to receive a reference signal that varies in proportion to temperature and wherein a delay through said timer circuit is inversely proportional to said temperature and wherein said reference signal is derived from a band gap reference circuit.

11. An electronic device as described in Claim 10 wherein said reference signal is a VPTAT voltage signal.

12. An electronic device as described in Claim 10 wherein said configurable delay element comprises a plurality of gated capacitors which can be selectively coupled to said output stage via a plurality of corresponding pass gates.

13. An electronic device as described in Claim 10 wherein said circuit for providing a selectable amount of pull down current comprises a plurality of gated pull-down circuits coupled in parallel wherein each gated pull-down circuit comprises a first transistor controlled by a respective configuration bit and a series coupled second transistor having a gate controlled by said reference signal.

14. An electronic device as described in Claim 13 wherein said configurable delay element comprises a plurality of gated capacitors which can be selectively coupled to said output path via a plurality of corresponding pass gates.

15. An electronic device as described in Claim 10 wherein said electronic device is a memory circuit.

16. An electronic device as described in Claim 10 wherein said electronic device is a write back timer of a memory circuit.

17. A method of varying a delay of a timer circuit comprising:

during configuration of said timer circuit, setting a first plurality of configuration bits which control the amount of elements coupled to an output stage of said timer circuit to set an amount of delay through said timer circuit;

during said configuration, setting a second plurality of configuration bits which control an amount of pull down current through a pull down path of said timer circuit to set an amount of delay through said timer circuit, said pull down path coupled to said output stage; and

during operation of said timer circuit, varying a reference signal coupled to said pull down path to vary delay though said timer circuit inversely proportional to temperature of said timer circuit.

18. A method as described in Claim 17 wherein said reference signal is generated by a band gap circuit and varies proportionally with said temperature.

19. A method as described in Claim 18 wherein said pull down path comprises a plurality of parallel coupled pull down circuits, each pull down circuit comprising a first transistor coupled to a respective configuration bit of said second set of configuration bits and a second transistor having a gate coupled to said reference signal.

20. A method as described in Claim 19 wherein said elements are gated capacitors which can be selectively coupled to said output stage based on said first set of configuration bits.